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The Need and Methodology for Determining Naval Enlisted Manpower Requirements

Report of Research

Conducted for the Bureau of Naval Personnel, Department of the Navy

Office of Naval Research Contract Nonr-520(00)

by

C. THOMAS CLIFTON

Principal Investigator

June 1953

THE CLIFTON CORPORATION

WASHINGTON, D. C.

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PREFACE

This study, which is "pilot" or exploratory in nature, is limited to the occupational classification aspects of identifying and reporting the enlisted skill requirements of naval activities. As with the contractor's previous study of naval officer manpower requirements, it does not consider the equally important problems of mental and physical demands, although certain findings in this area are reported as by-products of the study.

In a sense, this report is a companion piece to the contractor's November 1952 report, The Qualitative Determination of Naval Officer Manpower Requirements. Some of the classification and coding problems, methods, and accomplishments reported therein should serve as a practical guide in making the administrative decision to undertake the enlisted phase on a Navy-wide basis.

ACKNOWLEDGEMENTS

The helpful contributions of the naval and civilian personnel of the activities visited and sampled are gratefully acknowledged. While space does not permit the deserved listing of the many who gave so generously of their time and effort, special mention must be made of Captain N. R. Curtin, USN, Personnel Officer, Atlantic Fleet, whose understanding, interest and assistance contributed so largely to the results obtained.

Without the stimulating leadership and guidance of Captain E. K. VanSwearingen, USN, and his successor, Captain Lindsey Williamson, USN, Director, Personnel Analysis Division, and the support of Captain George E. Peckham, USN, Head, Mobilization Plans and Policies Branch, Office of the Chief of Naval Operations, the project would not have been undertaken.

To Messrs. D. George Price, Head, and Paul M. Brown, Assistant Head, Billet & Qualifications Research Branch, we express our gratitude for the able administrative and technical direction they gave throughout the entire contract period.

The clear discernment of the overall problem exhibited by Captain Robert H. Close, USN, Head, Complements & Allowances Branch, and LCDR Robert S. Clifton, USNR, Head, Enlisted Classification Section, Bureau of Naval Personnel, influenced favorably the ultimate research design. Serving with them and sharing extensive experience with the problems of occupational classification were: Commander T. D. Cunningham, USN, and LIEUT J. W. Williams, USNR, of the Complements & Allowances Branch; Mr. Stephen J. Sokol, of Enlisted Classification; and Messrs. Joseph F. Donnelly, Edward J. Ryan, Carroll F. Newhouse, and Samuel F. Curling, representing the Personnel Analysis Division. To all we extend our sincere appreciation and thanks.

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S U M M A R Y

Growing out of the Navy's mobilization planning need for more precise identification of enlisted billet skill requirements, so that total requirements, or demand, could be matched with the available supply of skilled personnel, and better manpower utilization thus achieved, this pilot study was undertaken to determine --

The need for establishing such requirements in occupational entities other than the Emergency Service rating breakdowns;

The occupational entity or entities most suitable and adequate for coding enlisted complement billets;

The methods which may be used for accomplishing such coding on a Navy-wide basis;

The administrative and/or technical guides or instructions which will improve the understandings and skills of field personnel and facilitate actual coding.

Data were gathered in three ways: (1) Through field visits made to a small, but representative, group of Fleet and Shore Establishment activities, in order to secure a diversified sampling of pertinent conditions and opinions; (2) By written requests for information, addressed to six DD's and three AD's of the Atlantic Fleet and to the same number of each ship type in the Pacific Fleet; (3) By analysis of ENJC-Qualifications for Advancement in Rating relationships. Data were validated during additional visits to representative activities and personnel distribution commands. Finally, from the inception of the study until its conclusion, a series of conferences was held with key Bureau of Naval Personnel officials to plan, coordinate, and review each successive step of the investigation.

On the basis of the study's findings, it may be concluded that --

1. The need for identifying and reporting a relatively small (estimated to be 20%, in the case of allowances, and probably somewhat in excess of this amount, in complements), but significant, number of naval activity enlisted skill requirements by ENJC's to supplement ratings has been firmly established.

2. Such special skill requirements are those which extend beyond, or fall outside of, the qualifications normally acquired by personnel of a given rating or rate.

3. A large proportion (approximately 80%) of enlisted skill requirements can be adequately identified by General Service ratings in allowances. Most skill requirements (yet to be determined, but probably less than 80%) can be adequately identified by Emergency and Exclusive Emergency Service ratings in complements.

4. Although not all special skills can be identified with adequate specificity by rating designations, they can be so identified by ENJC's.

5. No other occupational classification entity is needed in addition to the rating and ENJC instruments for the purpose of expressing the Navy's qualitative enlisted manpower requirements.

6. A Navy-wide inventory of skill requirements, entailing the classification and coding of a limited number of allowance and complement billets, is both feasible and practicable.

7. The format governing the submission of data and recommended codes should take into account the skill requirements of a work group or team.

8. Revision of the ENJC Manual should be undertaken on a research basis.

9. Training in the principles, methods, and instruments available for more effective classification and mobilization planning at the activity level is an important need.

10. Along with occupational skill requirements, the physical demands of billets should be identified and reported.

Based upon the results obtained and conclusions reached, it is recommended that --

1. In view of the feasibility and practicability established by this study, the Navy undertake the classification and coding of allowance and complement billets which can best be identified by ENJC's.

2. In the conduct of the project, activities (particularly those which are atypical in organization and mission) submit billet data and recommended codes through channels to a central BuPers unit which will make the final coding judgments, in cooperation with the technical bureaus, and conduct field validation studies, to assure reliable and valid results.

3. The classification and coding of allowances precede such work on complements.

4. Research, directed toward the improvement of the ENJC Manual, be undertaken as soon as practicable.

5. Investigation of special and limited physical demands in relation to the skill requirements of various activity billets be actively pursued.

6. To assure reliable and valid classification and coding at the activity level, a Manual for Field Classifiers be developed to supplement present materials.

7. To improve planning at the activity level, consideration be given to the development of a Manual for Mobilization Planners.

8. The contents of the Manual for Mobilization Planners provide the basis for P. G. School and correspondence courses, and be added to staff college curricula if not already emphasized.

9. Statements on the Navy's manpower policy, planning objectives, and planning procedures be issued periodically to improve the understandings and attitudes of planning personnel.

CHAPTER I

THE PROBLEM

This study grew out of the Navy's continuing program to achieve better enlisted manpower utilization through improved selection, classification, training, and distribution methods and procedures. Specifically, it had its origin in the need for more precise identification of shipboard and other naval activity skill requirements, so that total requirements (demand) could be matched with the available supply of skilled personnel.

Historically, and following the innovations of World War II and subsequent post-war occupational research, the rating became the principal entity for expressing billet requirements in complements and allowances, while the occupational skills of enlisted personnel were identified by both rate (pay grade within a rating) and Enlisted Navy Job Classification Code (ENJC).^{1/} These breakdowns followed the concepts of the Post-War Rating Structure which provided for the use of broad General Service ratings during peacetime and the employment of Emergency and Exclusive Emergency Service ratings (in which Reservists were classified) in the event of all-out mobilization. Each of these "systems" assumes that for the great majority of enlisted personnel, the rate is a satisfactory classification instrument for the identification, reporting, and distribution of required skills, and that within an activity, the major function of the ENJC is to facilitate billet assignments.

At the same time, however, it was recognized that certain exceptions had to be made in allowances to achieve the desired matching of skill requirements with personnel who possessed such skills. The structure of such ratings as Commissaryman and Ship's Serviceman necessitated the use of ENJC Codes to identify required skills. In the case of Commissaryman, the codes employed correspond to the Emergency Service entities within the General Service rating. For Ship's Serviceman, the ENJC codes are the only accepted entities corresponding to the required breakdown of special skills. In order to conserve and utilize fully the skills acquired by personnel through special training in such areas as atomic energy, guided missiles, and advanced fire control director systems, Special Program Job Codes (9900 Series) were used to earmark both enlisted allowance billets and individual qualifications.^{2/}

^{1/} - As this study goes to press, word has been received that the new designation will be NEC, referring to those classifications and codes contained in the Manual of Navy Enlisted Classifications. The reference throughout this report to ENJC's should be interpreted in the light of this change, soon to be officially promulgated.

^{2/} - According to the June, 1953, Personnel Allocation Plan tabulations, of the 1,268 discrete ENJC codes, a total of 310 codes are currently being utilized in allowances; 32 in complements. Since time did not permit analysis of these data, they should be compared with the data obtained in this pilot study and taken into account in any further investigation or administrative implementation.

With the outbreak of Korean hostilities, large numbers of enlisted Reservists were recalled in their Emergency Service ratings and assigned to billets within the General Service allowance framework. As such a cold-war transition, from peacetime to semi-mobilization conditions, had never been envisaged, the Navy was confronted with extraordinary problems of distribution and utilization. This experience sharpened attention to the problems of mobilization planning.

In the minds of many naval personnel who were faced with the ramifications of planning for any eventuality, it was becoming apparent that readiness of the operating forces would be delayed, if not impaired, unless essential skills were quickly distributed to the activities which required them. The awareness that in any future war our Nation would have to husband -- and perhaps even ration -- its available manpower skills was a sobering influence that brought the problems of distribution and utilization into sharp focus.

Although an early decision was reached to classify and code officer billets contained in mobilization complements^{1/}, action was deferred on the enlisted problem until the need for the wider use of ENJC's could be clearly defined and some indication could be made as to the practicability of such an undertaking. While there were ample resources of classification and personnel accounting men and machines, the magnitude of distributing and controlling millions of enlisted personnel by classification entities other than Emergency Service ratings constituted a formidable procedure, however sound in principle. And yet, until the nature and scope of the problem were defined, it was evident that no final decision could be made.

While the original research mission of the contractor was conceived on a very broad base to include the determination of coding methodology, the conduct of classification and coding of all enlisted billets contained in mobilization complements, and the development of related civilian occupations, several factors re-oriented the initial research design. First, as already indicated, the actual coding was considered premature; secondly, preliminary research uncovered the fact that only limited enlisted billet data were available; thirdly, research funds were limited.

Accordingly, it was determined to proceed with the research on a pilot-study basis and to confine the investigation to an exploration of the need, with the expectation that a clear course of action, administratively feasible, practicable, and economical, could be ascertained.

^{1/} See contractor's report, The Qualitative Determination of Naval Officer Manpower Requirements, The Clifton Corporation, Washington, D. C., November, 1952.

CHAPTER II

RESEARCH OBJECTIVES

In the light of the larger problem and specific need elaborated upon in Chapter I, the pilot study's research objectives were formally defined as follows:

"To determine the need for establishing the qualitative Navy enlisted manpower requirements in occupational entities other than the Emergency Service Rating breakdown, and

"To establish methods to be used by the Navy for coding enlisted billets, in terms of occupational entities, with reliability and validity."

In accomplishing the above objectives, end-products in the form of findings and recommendations were sought on the following:

1. The occupational entity or entities most suitable and adequate for coding enlisted complement billets.
2. The kind and form of data required to facilitate the coding.
3. The form in which coded data should be reported.
4. The procedures required for quality control of the final product of coding.
5. The understandings and attitudes of the "consumers" of enlisted personnel and the "producers" of basic classification and distribution data.
6. The administrative and/or technical guides or instructions needed by field personnel to accomplish coding.

To summarize, the contractor's research mission, in light of the larger mobilization planning problem, was to seek answers to these questions:

Is it feasible for the Navy to code enlisted complements by other than Emergency Service rating entities? What, in short, is the nature of the problem -- and why isn't the Emergency Service rating adequate? If the Emergency Service entity is found inadequate, will the use of ENJC's suffice? Or will some other entity be required?

Assuming feasibility, is it practicable to undertake the coding? How large a problem is it, in scope? How many different kinds of classification instruments are involved? Are naval personnel in the field equipped by understandings, skills and attitudes to do the job? What procedures can best insure results that will be quantitatively and qualitatively reliable?

CHAPTER III

METHODS

In order that the study's objectives might be accomplished and answers obtained to the questions posed in the preceding chapter, the investigation was conducted in four phases, as outlined below.

1. Planning

Preliminary study of the problem and the data available was made, and, as a continuing function, periodic conferences with Bureau of Naval Personnel officials to plan, coordinate, and review each successive step of the investigation were held.

2. Data Gathering

Interviews at the Washington level and in the field were conducted with representative, key naval personnel most directly concerned with the problem; data were also gathered by written requests for information directed to a small, but representative, sample of combatant and auxiliary ships; and a "desk" analysis of ENJC - Rating relationships was made.

The field visits were made to a small but representative group of Fleet and Shore Establishment activities to secure a diversified sampling of pertinent conditions and opinions. (Activities visited are listed in Appendix "A") A "check-off list" was employed in the conduct of the interviews to assure coverage of all matters of interest relating to the problem, but not to limit data to the specific items covered in the list. Areas of inquiry covered in the list were:

1. Adequacy of the ENJC as an instrument for classifying persons.
2. Use of ENJC codes assigned enlisted personnel in requesting, distributing, reporting and assigning individuals.
3. Adequacy of distribution of enlisted personnel by:
 - a. General Service ratings only.
 - b. Emergency Service and Exclusive Emergency Service ratings only.
4. Need for classification instruments other than ratings and ENJC's for distribution purposes.
5. ENJC coding of complements and allowances.
6. Content, format and organization of the ENJC.

Written requests for data were sent out, as Bu Pers Notice No. 1221, to six DD's and three AD's of the Atlantic Fleet and to the same number of each type in the Pacific Fleet. (See Appendix "B") Requests to DD's were sent only to ships of the 692 Class (2,200 ton with 3"/50 guns).

The analysis of ENJC - Rating Relationships was made by comparison of the content of all ENJC codes with the specific qualifications required for advancement in the related Navy ratings, to provide information as to the extent to which General Service and Emergency Service Rate and Rating designations identify specific occupational skills. ^{1/}

3. Validation

The data obtained were correlated and then submitted to personnel concerned with enlisted distribution at Fleet, Type Command, and District levels, for review and verification purposes. In addition, data from reports on skill requirements of billets in DD and AD allowances were tested in the course of interviews with officers on a DesFlot and a Des Div staff and in five DD's.

As a further check on requirement for identification of specific skills common to other ship types as well as those submitting reports, interviews were conducted in both the Submarine Force and the Mine Force of the Atlantic Fleet. (Staffs and ships visited for validation interviews are listed in Appendix "A")

Validation of the ENJC as a coding instrument was accomplished by analysis of the replies to written requests for identification of occupational skills in DD and AD allowances, as well as in the interviews.

4. Evaluation

Pertinent findings and observations were analyzed and then summarized, in the form of conclusions and recommendations.

^{1/} Texts used in comparison analysis were:

Manual of Enlisted Navy Job Classification, NavPers 15105-Revised
(Including change No. 1 and Advance change No. 2), and
Manual of Qualifications for Advancement in Rating, NavPers 18068
(Revised 1952)

CHAPTER IV

RESULTS OBTAINED

Early in the interview phase of data gathering, it became evident that a very real need exists for expressing some of the qualitative enlisted manpower requirements of the Navy in entities other than Emergency Service ratings. The need, in short, for the more definitive and more specific identification and reporting of a limited, but qualitatively very significant, number of skill requirements was generally expressed at every level -- the activity, the District, Sea Frontier, Type Command, Fleet Command, and Bureau of Naval Personnel. It may be conjectured that this conclusion was a direct result of accelerated mobilization planning and indirectly stimulated by the Navy-wide classification and coding of officer billets in mobilization complements. ^{1/}

Along with a clear showing of the need, it was found that in most activities there are sufficient available data, combined with intimate knowledge of requirements on the part of officers and other supervisory personnel, for the precise expression of skill requirements. While the ENJC was widely understood and accepted as a personnel classification instrument, there was some confusion between the classification of persons and the classification of billets, as well as only a vague comprehension at the activity level of the purpose and function of Emergency Service ratings. Yet, in every instance, there was a clear picture of skill requirements, however they may be expressed.

It now became the contractor's task to define the general need in terms of specific skill requirements and having done that, to explore the practicability of actual classification and coding, on a Navy-wide basis.

A. Identification of Skill Requirements

Definitive information on the specific functions performed in a billet is a prerequisite to the determination of the required skills which must be possessed by its occupant. In most activities visited in the course of this study, the only functional billet descriptions on hand were in the file copies of requests for changes in allowances or complements. The most notable exceptions were the Naval Hospital, Philadelphia, and the medical and dental activities visited in the New York area, in all of which billet descriptions are on hand for allowance billets, and for most of the complement billets.

In most activities visited, the recorded breakdown of allowances did not go further than the numerical totals in each rate level of included ratings. However, personnel officers and others interviewed were sufficiently familiar with the distribution of duties among the enlisted personnel to state the functions and skill requirements of individual allowance billets.

^{1/} - See Contractor's report, op. cit.

Mobilization complements were not usually expressed in such form as would indicate the scope of individual enlisted billets. But there was general agreement among personnel officers and personnel classifiers that identification of required skills in complement billets would present no serious problems if the specific functions of each such billet were indicated by mobilization planners in the form of billet descriptions, or even of specific and exclusive billet titles, expressed either in functional detail or by codes indicating such data. Firm establishment of skill requirements in allowances was considered a necessary pre-requisite for determination of requirements in mobilization complements.

There was agreement among personnel interviewed that, while determination of skill requirements of all enlisted complement and allowance billets would be essential for an accurate inventory of the Navy's requirements, the most pressing need exists for pin-pointing the numbers and locations of billets requiring skills outside those common to personnel in the rates assigned to such billets. The determination and recognition of such skill requirements were considered to be prime factors in the distribution of enlisted personnel, so as to attain effective manpower utilization.

Considerable interest was displayed in the problem of filling billets requiring special skills, not normally found in the rank and file of enlisted personnel. These include those billets demanding skills acquired through intensive training and/or experience, on the one hand, and a very high order of competence in either supervision or performance of functions involving the broad scope of related skills, acquired through extensive training and/or experience. While such skills and capabilities were considered by most persons interviewed to be in short supply, it was agreed that only a Navy-wide inventory of such skills and of billets requiring them could establish the reliability of that opinion.

There was also general agreement that the length of time required for adequate training in any particular skill specialty is an important criterion in determining its criticality, and hence whether it should be reported in a Navy-wide inventory of billets requiring special skills. An example very frequently given of the type of special skills which should be earmarked as required by specific billets is qualification and/or experience as an instructor, particularly in the functions of technical ratings.

1. Special Skills Reported in Sample of DD's and AD's

A clearer picture of the nature of such special skills, and the prevalence of requirements for them, was obtained through the sample of Fleet DD's and AD's. The data-gathering materials are exhibited in Appendix B to this report, while the considerable data on special skill requirements are contained in Appendices C through F.

Replies to information requests addressed to Atlantic Fleet units were submitted direct to the Bureau of Naval Personnel. In the Pacific Fleet, during the period September 1952-March 1953, ComCruDesPac conducted a staff study aboard 32 DD's. As a result of a visit by a member of the BuPers Personnel Analysis Division to ComCruDesPac, in April, 1953, it was decided that the ComCruDesPac staff would prepare replies for Pacific Fleet addresses.

The quantitative results of the sample may be summarized as follows:

TABLE I

NUMBER OF SKILLS INITIALLY REPORTED BY ENJC CODE
AND SUBSEQUENTLY CONFIRMED BY VALIDATION

<u>Item No.</u>		<u>DD's</u>	<u>AD's</u>
1	Average number of billets per ship (NOTE: In many cases one billet includes several men)	138	351
2	Total present ENJC codes used to code billets . . . (NOTE: Identical billets on different ships of the same type were frequently coded by different ENJC codes)	175	282
3	Number of different billets uncoded for lack of adequate ENJC codes in Manual (NOTE: New codes being recommended as being required)	2	18
4	Percentage of Average Number of billets coded . . . (96% of the total of 489 DD and AD billets)	98.5%	95%
5	Total different codes reported as required (Item 2 plus Item 3)	177	300
6	Number of different codes reported required for identification of special skills	61	165
	(a) Present ENJC codes	(59)	(147)
	(b) New codes reported to be required	(2)	(18)
7	Item 6 (above) as a percentage of Item 1	44%	47%
8	Number of codes considered in Validation Interviews to be required for special skill identification	29	50
	(Of these, 11 were common to DD's and AD's)		
	(a) Present ENJC codes	(29)	(44)
	(b) New codes considered to be required	(-)	(6)
9	Item 8 (above) as a percentage of Item 1 (The total of 68 codes required is 14% of the 489 billets)	21%	14%
10	Item 8 (above) as a percentage of Item 6	47.5%	30%

From Table I, above, it will be seen that the number of skills initially reported as "special", and requiring more specific identification than is afforded by rating and rate designations, is quite large in proportion to average total number of billets (44% for DD's and 47% for AD's). Appendix C shows no very obvious pattern in the skill requirements reported, although analysis of that tabulation indicates that the proportion of billets reported as requiring special skills is higher in those technical or semi-technical ratings, such as TM, which deal with many different items of equipment or with several very different types of similar items. Such reported required skills as TM-0745, Torpedo Gyro Repairman (TMT-TME), or TM-0774, Advanced Underseas Weapons Mechanic, Surface Ship (TMS), obviously cover skills which in their narrow specialization cannot be common to most men in the TM rating.

Requirement for special skills was reported to be very low or non-existent in such non-technical ratings as BM, and also in some technical ratings, such as PI and PM, in which there is no great variety in equipment employed or in principles and methods involved. Of the thirty BM codes in the ENJC Manual, only one (BM-0142, Canvas Worker and Sewing Machine Operator) was reported to be required for identification of special skills. No requirement was reported for special skills in the PI and PM ratings.

In Appendix D, which lists codes reported by specific DD's (Part I) and AD's (Part II) as being required for identification of special skills, wide diversity of opinion is disclosed on requirements in ships of the same type. It will also be noted that the ComCruDesPac responses, based on the staff study, report considerably greater requirements than are reported directly by ships of the Atlantic Fleet. The higher agreement between Pacific DD Type "A" and Type "B" reports, and between reports on the AD's Prairie and Piedmont, than between similar Atlantic Fleet ships, is attributed to the fact that reports on Pacific Fleet ships were prepared by the ComCruDesPac Staff, rather than by individual ships.

Data from validation interviews confirmed all data previously obtained by interview and the sample survey. It was soon apparent that those ships (DD's Noa and English; AD Grand Canyon) which reported no requirements for special skills in any of their billets, based their replies on the fact that they were actually operating effectively with their present on-board personnel, without specific awareness of the extent to which some of the ship's company were performing functions not normally within the competence of all men in their rates. In all destroyers to which validation visits were made, specific requirements for specialists in some billets were stated. In the case of the Grand Canyon, which had initially reported no special skill requirements, the validation visit resulted in stated requirements for special skills identified by 30 different existing ENJC codes, and for two additional skills for which new codes were recommended.

In Appendix C, Special Skill Requirements in DD and AD Allowances, field validation requirements were established on the basis of a high degree (75% or better) of expressed agreement. From Table I, above, it will be noted that requirement for a total of 29 presently existing ENJC codes are considered as established for DD billets, and 44 for AD billets. There are 11 such codes common to both ship types, leaving a net of only 62 existing

ENJC codes considered upon validation to be required by DD's and AD's. In addition, requirement was established on the same basis (75% or better agreement) for 6 new ENJC codes. While these 68 codes are 14% of the total billets in the two ship types, it is estimated that approximately 20% of all allowance billets will require coding, when the skill requirements of other activities, particularly those of the Shore Establishment, are inventoried.

Table II summarizes, qualitatively, the kinds of skills in each rating group for which requirement is considered as established in the course of validation interviews.

TABLE II
ENJC CODES CONSIDERED IN VALIDATION INTERVIEWS
TO BE REQUIRED FOR INDICATING SPECIAL SKILLS
IN AUTHORIZED ALLOWANCES OF SAMPLE OF DD's AND AD's.

KEY: x - Considered required on reports
v - Considered required on validation interviews
* - Codes presently written in on authorized allowances
- Tentative new code suggested as required
@ - Skill can be identified by an Emergency Service rating.

<u>Ratings and Codes</u>	<u>Code Titles</u>	<u>Required by:</u>	
		<u>DD's</u>	<u>AD's</u>
BM 0142 @	Canvas Worker and Sewing Machine Operator (BMG-BMB-BMK)	-	xv
RD 0304	Radar Operator, Radar Countermeasures Equipment	xv	-
SO 0400 #	Supervisor, Sonar Attack-Teacher Instruction	-	v
0400 #	Instructor and Maintenance man Attack-Teacher	-	v
0400 #	Observer and Maintenance Assistant, Attack-Teacher	-	v
0401/ 3426	Sonarman, Instruction Supervisor, Attack-Teacher Instructor	-	xv
0402/ 3426	Sonar Operator, Attack-Teacher Instructor, Surface (SOG)	-	xv
0404	Sonar Operator, Integrated Anti-submarine Warfare, Maintenance Experience (SOG)	v	x

<u>Ratings and Codes</u>		<u>Code Titles</u>	<u>Required by:</u> <u>DD's</u> <u>AD's</u>	
	0404/ 3426	Sonar Operator, Integrated Anti-submarine Warfare, Attack-Teacher Instructor and Maintenance Experience (SOG)	v	xv
TM	0700 #	Shop Supervisor, Torpedo Repair	-	v
	0745	Torpedo Gyro Repairman (TMT-TME)	-	xv
	0774	Advanced Underseas Weapons Mechanic, Surface Ship (TMS)	v	-
GM	0800 #	Ordnance Repair Supervisor	-	v
	0802	Ordnance Repairman, Hydraulic (GMM-GMT)	-	xv
	0875	Gunnery Maintenance Man, Hydraulic Dual Purpose 3"/50 Rapid fire single or twin mounts (with automatic loader) (GMM)	xv	x
FT	1100 #	Shop Repair Supervisor, Fire Control Equipment	-	v
	1104	Fire Control Repairman, Electronic Repair	-	xv
	1104/ 9984	Fire Control Repairman, Electronic Repair	xv	xv
TE	2252 @	Postal Clerk (TEM)	xv*	xv
RM	2342	Teletypewriter Repairman (RMN, RMT)	v	x
	2342/ 9922	Teletypewriter Repairman (RMN, RMT)	v	v
YN	2513	Court Reporter (YNS)	-	v
PN	2651 @	Personnel Records Clerk, Supervisor (PNA)	-	v
SK	2813 @	Supply Clerk, Store, General stores (SKG-SKT)	v	-
	2836	Receipt and Delivery Clerk (SKG-SKT)	-	v
	2857	Spare Parts Man, Electronic equipment (radio, radar, sonar) (SKT)	-	xv
	2858	Spare Parts Man, Ordnance (SKT)	-	xv
CS	3001	Chief Commissary man	v*	-*
	3003	Ship's Cook-Butcher	-	xv
	3022 @	Ship's Cook (CSG)	xv*	xv*
	3042 @	Baker (CSR)	xv*	xv*
SH	3122	Barber	xv*	xv*
	3151	Manager, Laundry Shop	x	xv
	3152	Laundryman	xv*	x*
	3162	Cobbler, General, Machine Repair Experience-		xv

<u>Ratings and Codes</u>	<u>Code Titles</u>	<u>Required by:</u>	
		<u>DD's</u>	<u>AD's</u>
ESE 3442 @	Passenger Transportation Specialist (SKG)	-	v
MM 4252	Steam Heat Maintenance Mechanic (MML)	v	x
4272	Outside Machinist, Ship Repair (MML)	-	xv
4291 @	Refrigeration and Air Conditioning Mechanic Supervisor	xv	xv
BT 4532	Oil King, Large Ship (BTG)	xv	x
4542 @	Boiler Repairman (BTR)	-	xv
4549	Boiler Repairman, Basic (BTR)	-	xv
EM 4651 @	Electrician, Shop Repair, Supervisor (EMS)	-	v
4656	Battery Repairman (EMP, EMS)	-	v
IC 4701	Interior Communications Electrician, Supervisor	-	v
4702	Interior Communications Electrician	xv	x
4722	Gyro Repair, Interior Communications Electrician	v	xv
ME 4821 @	Sheet Metal Worker, Supervisor (MES)	-	v
4832 @	Blacksmith, General (MEB)	-	xv
4841 @	Welder Supervisor (MEW)	-	v
4842 @	Welder, Combination (MEW)	v	x
4842-42 @	Welder, Combination (MEW)	-	xv
FP 4942 @	Marine Steam Fitter (FPS)	v	x
DC 5002	Damage Controlman	v	-
5012 @	Shipboard Damage Controlman (DCG)	xv	x
5021 @	Carpenter, Supervisor (DCW)	-	xv
5022	Ship Maintenance Carpenter (DCW)	-	xv
5024	Small Boat Carpenter (DCW)	-	xv
ESM5312 @	Diver, First Class	-	v*
5313 @	Diver, Second Class	-	v*
5314 @	Diver, Third Class	-	v*
HM 8402	Hospital Corpsman, General Service (HM-GS)	xv*	-*
8405	Hospital Corpsman, Special Service (HM-SS)	xv*	-
DT 8732 @	Dental Technician, Repair (DTR)	-	xv*
8752 @	Dental Technician, Prosthetic (DTP)	-	xv*
SD 9012 @	Steward, Cook (SDG)	xv	x
SPJC 9922	Cryptographic Machines Repairman	v	xv*
9984	Gunfire Control System Mark 56 Technician	xv*	xv

From the data in Table II, if we assume that personnel are fully qualified at their rate level, it is evident that 24 of the 68 codes (35%) can be identified by Emergency Service (or Exclusive Emergency Service) rating designations, thus requiring no ENJC coding of such billets in complements of DD's and AD's.

To facilitate rapid mobilization and detail to activity billets, however, it may be necessary to code complement billets on a more extensive basis than indicated by the DD-AD sample. It may be found feasible, for example, to code some Gunner's Mate billets as GM-0872 (5"/38) in order to utilize directly, without the lag of additional training, those personnel of the active Reserve who have developed skills only in such equipment.

Again, the highly specialized billets of many technical Shore Establishment activities may require coding in order to utilize the special qualifications, of a rather narrow nature, acquired by inactive Reservists, enlistees, and inductees through civilian employment and schooling.

These and other mobilization planning problems should be taken into account in determining the kinds of billets which need to be coded in complements. Only an extensive inventory of all naval complement billets will, in the last analysis, provide the answers which are beyond the scope of this pilot study.

From internal evidence in the reports submitted and validation interviews, it was found that some reported requirements were based upon such negative reasons as "to insure that men with a higher degree of specialist skills than are required will not be assigned". Such reasons, for skill identification purposes, were generally considered invalid by those with whom they were discussed in validation interviews. The consensus was that effective distribution, based on the requirement for the higher skills in other billets, would prevent such waste.

The frequently reported requirement for skills at the "basic" level indicates, in most instances, not that such skills are "special" in nature, but that non-rated men, either specifically qualified in the occupational field of the rating, or with definite aptitude and ability in that field, are required to fill billets which cannot be filled by the average SN or FN.

a. The Concept of Work Group Skill Requirements

During validation interviews a very important consideration, which had not been stressed in previous interviews, was brought out. In listing requirements for special skills in enlisted complements or allowances, many such skills cannot be definitively identified with any one specific billet. Instead, such skills are clearly indicated as being required in some member or members of a given work group or "gang"; any such member or members, within a two- or three-rate spread in a particular rating within the group, being considered satisfactory as the possessor(s) of the required special skills.

The pattern of associating skill requirements with working groups ("gangs" or "teams") rather than with individual billets, is further exemplified by the manner in which authorized allowances show ENJC codes for a rating group, without designating the number of personnel in each rate level for each such code. It was made evident in the course of validation interviews that the fluidity or flexibility inherent in the group skill requirement concept should not be lost by any attempt to force the tie-in of necessary skills with particular individual billets at a given rate level. Such group identification not only provides wide latitude in the distribution and assignment of individual personnel, but also facilitates the advancement of individuals in rating, while preserving the special skills within the group.

2. ENJC - Qualifications for Advancement in Rating Relationships

The Qualifications for Advancement in Rating serve several important functions. They define the scope and content of General, Emergency, and Exclusive Emergency Service ratings - the Navy's primary classification entities. At the same time, they provide the basic data for recruitment and selection instruments and methods. They prescribe the standards governing the training, performance, and promotion of enlisted personnel, in terms of rather broad statements of the understandings and skills required. In only a limited number of areas have criterion research data been developed in support of such standards.

The Enlisted Navy Job Classification Codes, on the other hand, were originally designed to earmark the presence or absence of special skills, in order to facilitate the distribution and effective utilization of enlisted personnel, during World War II. At a later date, and following the evolution of new post-War rating and warrant officer structures, the ENJC's were revised and integrated into the rating structure.

With this background, an analysis was made of the various rating groups and the ENJC's within each group, to ascertain (from the language of the Qualifications for Advancement in Rating and the individual ENJC's) the number and kinds of special ENJC skills which were not normally expected to be possessed by all personnel of a given rate. It early appeared that there was very little agreement between codes and qualifications, in that very few ENJC skill requirements were covered specifically by the qualifications. Upon further analysis, however, and in the light of the knowledge, on the part of contractor personnel, of skills actually required and possessed by personnel of the various ratings, the initial findings were considerably modified.

It was determined that, for the most part, the general qualifications imply the specific ENJC's. This was borne out by a review of training course manuals and school curricula, and by discussions in the course of the field validation visits, all of which tended to confirm the experience of staff analysts. While this method of enquiry was discarded as unprofitable of significant results, it was apparent that any future revision of the Qualifications and ENJC Manual should take this problem into account.

B. Adequacy of Classification Entities

1. General Service Ratings

The data obtained from the sample of DD's and AD's, reinforced by the opinions expressed before and after such sample, indicate that the General Service rating is an adequate entity for the expression of skill requirements in allowances for a substantial portion of billets. Approximately 86% of all skills can thus be identified in the ship's allowances included in the sample. (See Item 9, Table I)

On the other hand, it is significant that the General Service rating fails to cover a quantitatively small (14%) but qualitatively very important group of billets (See Table II) requiring special skills, knowledge, and experience not usually possessed by all personnel in the ratings and rates assigned to such billets.

2. Emergency Service (and Exclusive Emergency Service) Ratings

Only personnel having recent experience in connection with the Naval Reserve had any significant knowledge or opinions regarding these classifications. In general, it was thought that these entities would be only slightly more useful than the General Service classifications.

It was considered feasible to identify most skills required in enlisted complement billets by Emergency and Exclusive Emergency Service rating classifications. Yet it was felt that the present state of mobilization planning, and of reporting mobilization requirements in most activities, provide inadequate data for determining accurately whether such breakdowns would be of sufficient specificity to insure effective distribution and utilization.

In general, and based upon the allowance data obtained in the DD and AD sample, it was thought that while additional specificity would be realized in a few cases, the preparation of billet descriptions, particularly for highly technical and highly specialized activities of the Shore Establishment, would uncover a great many areas for which only currently available or newly created ENJC's would suffice.

3. Enlisted Navy Job Classification Codes (ENJC's)

Personnel officers and senior enlisted classification interviewers agreed that the ENJC's are adequate for the identification of skills required in practically all billets. This was borne out by the results of the sampling survey which indicated that the total number of allowance billets (138 for DD's; 351 for AD's) could be classified and coded by current ENJC's with an effectiveness of 96 per cent; only 20 different billets being found for which new ENJC codes were required (See Appendix E for recommended new ENJC codes).

Even assuming that some of the ENJC codes were "stretched" to cover the billets, and that the wish was the father of the classification and coding process in many instances, the 96% coverage is quite remarkable.

This coverage, furthermore, was confirmed by the contractor's ENJC-Rating Qualifications analysis (See 2 above), in which the scope of the specific ENJC's was considered within the capabilities of qualified personnel even though not obviously implicit in the Practical Factors and Examination Subjects of the rating.

As to facility of use, it was found in the course of interviews that the ENJC was employed quickly and accurately to identify (code) billet functions, not only by personnel officers and trained enlisted classifiers, but also by line and staff officers with no recent experience in personnel management functions, and by enlisted personnel in the various rating groups. Practically all personnel interviewed were of the opinion that their activities could gear themselves to expressing billet requirements for occupational skills by (1) supplying data defining the functions performed and (2) using the ENJC's for the actual classification and coding from such data.

Although only twenty new codes were recommended in the course of the sampling survey, it is evident that that number will probably be significantly increased when the sample is extended to other ships and other activities of the operating forces (particularly aviation), and a study is made of the complex Shore Establishment. No specific recommendations were received for the deletion of any ENJC codes in the course of the survey.

While no specific changes in the present ENJC structure or codes were recommended, the opinion was frequently expressed that some occupational areas were "artificially" broken down into too many codes for skills which include nothing other than only a small segment of the skills normally possessed by personnel in the rating area. Such codes were said to "lack significance", in that they were too restricted in occupational content to earmark either the skill of any specific individual or the skill demands of any specific billet. Single codes covering several of such closely related ENJC's, in more general terms, were considered desirable, as it was stated that men are frequently found to be equally qualified under two or more such codes. Such personnel function in billets requiring competence in the skills of two or more codes, with no significant indices by which a classifier could select any particular one of such group of codes as the primary ENJC classification of either the man or the billet.

It was also stated that the converse of the above-described situation also exists in respect to some occupational fields. Here, the ENJC codes are too broad in scope, or too generalized in statement of occupational content, to earmark the specific skills of individuals or the skill requirements of some, generally specialist, jobs. In this connection, ComCru-DesPac (see summary in Appendix F) indicated that some codes were so inclusive as to cover the entire scope of the rating.

More specific ENJC codes to cover skills required to function as instructors in specific occupational fields, and in connection with specific types or items of equipment, were frequently stated to be required. Indication by specific code of graduation from specialist schools, or duty as instructor at such schools, was suggested.

The use of the performance level ("basic", "journeyman", "supervisor") ENJC code, along with the rate level (rating pay grade), was not clearly understood. Such performance level codes, however, were considered by some to be of use in such cases as:

- (1) Men in higher rates who have recently completed specialist training, but are not yet sufficiently competent in the specialty to supervise lower-rated personnel with greater experience in the specialty;
- (2) Men, particularly in technical ratings, qualified by previous, non-Navy experience or training to function at a higher level than that required of men in their pay grade;
- (3) Men not fully qualified for performance at their rate levels, in which cases training is indicated as required before they can be assigned to billets requiring performance at their rate levels.

ENJC codes which earmark functions related to specific items of equipment (and even to specific Marks and Modifications of such material) were considered desirable in the occupational fields of the more highly technical ratings, such as ET and FT. In such ratings not all men in a rate level can be expected to operate and/or maintain all complex gear, due to the requirements of security, the unavailability of equipment for training purposes, etc. In general, it was agreed that only officers and senior enlisted specialists in the technical area concerned could determine just which functions should be covered by such equipment-oriented codes, and what codes are required to express cumulative skills in more than one item or in combinations of several items. It was frequently pointed out to the interviewers that such equipment-oriented codes should be reviewed periodically, since requirements change as equipment and methods change.

Several recommendations, in general terms, were received to the effect that the ENJC Manual be modified to contain only codes which identify (1) the special skill requirements which are not clearly within the scope of the various ratings; and (2) the special skills, within a rating, which are not normally possessed by men qualified at their rate levels. It should be noted that the first requirement is a matter of kind, the second a matter of degree, such as precision lathe work (working to very close tolerances) acquired by a Machinery Repairman.

The general reason given for such recommendations was that only such codes are required to facilitate distribution of enlisted personnel, the rating structure providing adequate classification information to accomplish effective distribution to billets not requiring specialized skills of the kind and degree which would be provided by the revised ENJC codes.

It was also pointed out, however, that the requirements of enlisted distribution alone, or even of distribution and/or training, should not be the only criteria governing the structure and content of the ENJC Manual. It was recognized, for example, that the other uses of the Manual, such as definitive, accurate, and comprehensive manpower requirements reporting,

should be given considerable weight. Determination of the degree of specificity required in coding for the latter purpose is outside the scope of this pilot study.

The only suggestions received regarding reorganization of the coding structure were that a unification of the ENJC and PAMI codes would greatly facilitate strength reporting and other statistical tabulations. It was also suggested that consideration should be given to a closer integration of ENJC family codes, to make them conform to the Emergency Service rating breakdown, rather than cut across several such ratings, as at present. This was thought advisable, in the interest of clarity and skill-family relationships, even though more detailed codes were required. This whole problem area, of course, was beyond the scope of this study.

4. Requirement for Coding Instruments other than Navy Ratings and ENJC Codes

It was the unanimous opinion of all personnel interviewed in Fleet and shore-based activities that practically no requirement exists for any classification instruments other than the Navy ratings and ENJC codes to identify either the occupational skills of enlisted personnel or the skill requirements of enlisted billets. The general opinion expressed was that the use of any other instrument providing a finer breakdown than the ENJC would over-complicate both classification and distribution, and would tend to restrict too narrowly the activities to which any enlisted personnel may be ordered, as well as assignment to specific billets within an activity.

Some persons interviewed advanced the suggestion that employment of the Service Type Code (additional two digits following the four-digit ENJC code) would provide ample identification of the ability of rated personnel to perform Watch, Quarter and Station functions and other military duties, commensurate with their rate levels, in any specific type of ship or other activity. In this connection, it was suggested that the Service Type Code could be used with the ENJC codes for the identification of special skills and billet requirements. In the case of men and billets not requiring special skill identification beyond the level of required familiarity with the duties of their rate, zeroes preceding the Type code could be used, if necessary.

It was further pointed out to the interviewers that non-rated personnel are usually assigned to Watch, Quarter and Station duties at such low performance skill levels as to require only brief on-the-job training during regular drill and instruction periods to qualify them for adequate performance. Accordingly, a code designed to express Watch, Quarter and Station bill assignments was considered unnecessary for purposes of distribution. It may be conjectured, however, that such a code could conceivably serve other purposes, such as interpretation of the Navy's multiple manpower requirements and definition of the skill areas which should be stressed in recruit training.

Finally, it was considered that some modification of both the rating and ENJC classification and coding instruments, as previously indicated above, would improve them to the point that all enlisted occupational classification requirements could be identified, reported, and controlled, and the needs of effective distribution and personnel utilization fully met.

C. Other Observations

1. Recognition and Utilization of Special Skills Aboard Ship

Most requests for personnel originating at the shipboard level indicate no clear recognition of skill requirements not adequately identified by enlisted rating and rate designations. Practically all such requests are made in terms of the traditional rating breakdown, generally with a stated preference for a particular rate level.

On the other hand, when the need for a special skill arises, such needs are customarily reported by the use of brief descriptions, rather than codes or code titles. In short, while the vast majority of personnel officers and classifiers understand and accept the ENJC as a personnel classification device, they do not use such devices for the reporting of billet requirements.

Inspections and other sources of information indicate considerable lack of understanding in the assignment of personnel to billets for which they possess special qualifications. SN's and FN's qualified in specific occupational fields at the "basic" level, as a result of previous training and experience or graduation from Class "A" Schools, and with ENJC codes in their records indicating such qualification, are frequently assigned to activity fields other than those in which they are qualified. Interviewers were informed of cases where new men reporting aboard with Storekeeper or Yeoman basic codes were assigned to the deck force, even though vacancies existed in billets requiring their specialties.

A further indication of lack of interest in the matter of specific skills is that, in some instances, rated men as high as Petty Officer, Second Class, are still coded in their records as "basics" or even as "potential strikers".

While the above conditions indicate the need for better understanding of classification and the instruments available, it is recognized that in the final analysis, it is the Commanding Officer's responsibility to utilize his personnel in a manner which makes for maximum operational readiness, under all conditions. Since operational readiness and full personnel utilization are not inconsistent, it is felt that both may be achieved, with a minimum of effort and cost, through a better use of the classification instruments, without in any way usurping the Commanding Officer's latitude for the flexible assignment of personnel.

2. Physical Capabilities of Personnel

While the subject of this pilot study is limited to occupational classification, considerable evidence has been present to the contractor's staff of requirements for:

- a. A method of earmarking physical qualifications of individuals which would indicate exceptional performance capabilities, with a corresponding method for indicating the special physical demands of some billets. While the physical (ocular) requirements for Stereoscopic

Rangefinder Operator (FC-1073) was the only specific requirement cited, it was stated that some billets require unusual height for facility in performance of functions, others ability to lift weights beyond the usual capacities of "average" personnel, and that other similar physical requirements exist.

b. Provisions for indicating the specific physical deviations below fitness for normal performance of sea duty, on the part of some personnel, with a related system for indicating billet requirements which will permit reasonably effective use of such personnel within the Naval Establishment. Relating to this problem is the matter of earmarking billets which cannot be adequately filled by female uniformed personnel.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

On the basis of the results obtained, it may be concluded that the need for determining qualitatively the Navy's enlisted manpower requirements has been established, both generally and specifically. It may also be concluded that a small, but significant, number of ENJC's are required to supplement ratings in identifying and reporting special enlisted billet skill requirements, thus facilitating the effective distribution and utilization of enlisted manpower. To accomplish such classification and coding on a Navy-wide basis, and to improve the status of naval classification and mobilization planning, in general, a number of recommendations are made.

A. Conclusions

1. The Need

The need for identifying and reporting a relatively small (estimated to be 20%, in the case of allowances, and probably somewhat in excess of this amount, in complements), but significant, number of naval activity enlisted skill requirements by ENJC's, to supplement ratings, has been firmly established. While only a Navy-wide skill inventory (see 6 below) can determine precise requirements, the limited, yet representative, analysis of a wide variety of naval activities indicates that as specific billet skills are identified and reported, the Navy will be better equipped to express its enlisted manpower requirements and to achieve more effective utilization of the enlisted manpower resources available.

2. Special Skill Requirements

Special skills requiring pin-pointing, in terms of the numbers of men needed and the activities needing them, fall into two categories:

a. Those skills which the average enlisted man, qualified at the rate level in the rating usually assigned to perform functions demanding them, cannot be expected to possess, because they require specialized training of such nature and extent as cannot be accomplished within a reasonable period by "on-board" training.

b. Those skills which are required for supervision and/or performance of such a wide range of functions in a broad occupational area that their adequate performance cannot be expected from most personnel in the rate usually assigned.

3. Use of Rating Entities

A large proportion, estimated from the data obtained to be in the order of 80%, of all enlisted skill requirements can be adequately identified by General Service rating designations in allowances. While it appears (See Table II, Chapter IV) that an even greater percentage can be adequately

identified by Emergency and Exclusive Emergency Service ratings in complements, the exigencies of rapid mobilization, the limitations in the all-round qualification of Reservists, and the highly specialized skills required in the many technical activities of the Shore Establishment would offset this gain and probably require a more extensive coding of skill requirements.

4. Use of ENJC's

Although not all special skills can be identified with adequate specificity by rating designations, they can be identified by ENJC's (62 of the 68--91%--special shipboard skills considered required upon validation were adequately identified by present ENJC codes). On the basis of the shipboard sample and validation, only a few new codes are required to permit the complete and definitive identification of special skill requirements. It may be conjectured, however, that an inventory of all naval activities would reveal the need for a substantially greater number of new codes.

5. Use of Other Classification Entities

No other occupational classification entity, such as a code to identify watch, quarter, and station bill functions, is needed in addition to the rating and ENJC instruments, for the purpose of expressing the Navy's qualitative enlisted manpower requirements.

6. Navy-wide Skill Inventory

A Navy-wide inventory of skill requirements, entailing the classification and coding of a limited number of allowance and complement billets, is both feasible and practicable. On the basis of the data obtained, it may be concluded that activities can readily supply required billet descriptions and make recommendations for the appropriate coding of special skills.

In view of the rather wide divergence in codes assigned in the sample survey, particularly within ships of the same type, and in light of the rather prevalent, yet normal, confusion between the demands of the billet and the qualifications of the billet incumbent, it may also be concluded that activity coding should be carefully reviewed at all command levels.

Finally, the ultimate codes assigned should initially be controlled centrally. Such a procedure will assure a standard interpretation of the billet data, and hence produce reliable results. To assure validity, it may be concluded, in the light of the research experience, that field validation visits to verify data and codes assigned are prerequisite.

7. Reporting Format

The format governing the submission of billet data and recommended codes, as well as the formal expression of skill requirements on allowance and complement sheets, should take into account the skills which are pertinent to a group or team ("work gang"), together with the specific requirements which may exist for individual billets.

8. Revision of the ENJC Manual

In view of the widespread recommendations received, it may be concluded that revision of the ENJC Manual should be undertaken on a research basis. Such research should encompass not only the code structure, in relationship to the rating structure, but also the possibility of evolving a digit structure which will serve as a common denominator for both the ENJC and PAMI codes.

9. Understandings, Skills, and Attitudes of Activity Personnel

While activity personnel, in general, have a clear understanding and acceptance of the ENJC as an instrument for classifying the qualifications of enlisted personnel, there is no clear comprehension, except by personnel officers and trained enlisted personnel classifiers, of its use as a billet skill classification device. Equally vague is the understanding of the purpose and function of Emergency and Exclusive Emergency Service ratings, the need for billet descriptions as an organization and mobilization planning device, and the general principles governing classification.

It may therefore be concluded that training in the principles, methods, and instruments available for more effective classification and mobilization planning at the activity level is an important need.

10. Physical Demands

Finally, it may be concluded that there is need for identifying and reporting the physical demands of billets, along with the occupational skill requirements. Such classifications, in the opinion of many, would facilitate the use of personnel with exceptional physical qualifications, as well as the physically handicapped, and identify those billets which cannot be adequately occupied by uniformed female personnel.

B. Recommendations

1. Navy-wide Coding of Allowances and Complements

In view of the feasibility and practicability established by this study, it is recommended that the Navy undertake the classification and coding of those allowance and complement billets, the special skill requirements of which can best be identified by ENJC's, as a prerequisite for the more effective expression of manpower requirements and utilization of available enlisted personnel.

2. Coding Methodology

The classification and coding should be accomplished initially along the following lines:

- a. The submission by each naval activity (particularly those which are non-standard or atypical in organization and mission, such as laboratories, material research centers and supply depots) of brief, but complete, functional billet descriptions, together with the recommended ENJC code which classifies the skills required. Under this

arrangement, there would be little burden on standard-type activities, such as ships and air squadrons, and each activity would gain the benefits of objective billet data, so essential to effective personnel management and mobilization planning functions. Data should be reported in a format which reflects the activity's organization and facilitates the relating of required skills to clearly designated groups, teams, or "work gangs."

b. The review and further recommendation of appropriate codes by Type (and similar) Commands and distribution staffs (such as Service Force and Sea Frontier Commands).

c. To assure reliability, the final and authoritative classification and coding by a central, coordinating group within the Bureau of Naval Personnel. Such group should take into account, not only the original data and recommendations supplied by the field, but also pertinent recommendations submitted by the technical bureaus.

d. To assure validity, the conduct of field validation studies by the BuPers unit, in order to verify the data supplied and the actual classification and coding judgments made.

3. Coding of Allowances before Complements

The classification and coding of allowances should precede such work on complements. This is recommended because (1) the resulting data will be immediately useful, in terms of the better manpower utilization which will result; (2) required data, based upon analysis of on-board personnel actually engaged in routine and battle conditions, are readily available; (3) complements, in most activities, must be predicated upon allowances, expanded in numbers, and probably with narrower breakdowns in skill requirements, but with few or no additional special skills. In other words, given the allowance data, planning officers and others charged with detailed preparation of enlisted complements can readily determine the skill requirements involved.

4. Revision of the ENJC Manual

It is recommended that research, directed toward the improvement of the ENJC Manual, be undertaken as soon as practicable, but in such a manner as not to interfere with the initial coding effort. In scope, such research should investigate not only the need for new codes, but also the design of the present structure to eliminate artificiality, to reflect skills in areas of broader supervisory competence, to earmark special skills acquired through training, and to reflect, in the more technical ratings, material competence, by individual and cumulative codes. The investigation should also consider the ENJC structure with reference to the rating structure, and should review the possibility of a digit structure common to both ENJC and PAMI codes.

In passing, it is worth noting that the billet data supplied in the course of the recommended coding project would be invaluable for the above research.

5. Physical Demands

Investigation of special and limited physical capabilities in relation to the skill requirements of various activity billets should be actively pursued. Such research should provide the principles and methods for identifying, classifying, and reporting such physical demands, so that exceptionally qualified, as well as marginal and physically handicapped personnel, can be utilized and billets not occupiable by uniformed female personnel can be identified.

* * *

The following recommendations, previously submitted in the contractor's earlier report, The Qualitative Determination of Naval Officer Manpower Requirements, are restated in terms of their application to enlisted personnel problems, since their pertinence has been further emphasized in the course of this pilot study:

6. Manual for Field Classifiers

In order that classification and coding may be accomplished at the activity level with results that are both reliable and valid, it is recommended that a Manual for Field Classifiers be developed. Such Manual should supplement current materials^{1/} and contain, among other items, the following:

- a. The relationship of accurate classification to mobilization planning.
- b. An explanation of classification, in general.
- c. An explanation of naval enlisted classification, including the significance and use of General, Emergency, and Exclusive Emergency Service ratings and ENJC codes.
- d. The preparation of billet descriptions, in standard format.
- e. The What, Why and How of classification and coding of enlisted billets.

An outline of such a Manual, covering officer classification, has been submitted to BuPers by the contractor.

7. Manual for Mobilization Planners

There is considerable evidence that steps need to be taken to improve planning at the activity level. Since many officers, in the rotation process, are given planning assignments without standardized training in the principles, policies, and procedures involved, it is recommended that consideration be given to the development of a Manual for Mobilization Planners. Such a Manual, it is felt, should cover the policies, principles, and methods of organizational planning, workload distribution, establishment of billets, etc. In structure, it should be closely referenced to the Manual for Field Classifiers, recommended under 6 above, as well as to current mobilization doctrine and procedures.

^{1/} - Guide to Enlisted Classification, NavPers 15780, and Guide to Enlisted Naval Reserve Classification, NavPers 15818.

Since organization cannot be divorced from billet classification, the development of the Manual could well be a joint project of BuPers and the Navy Management Engineer's Office.

8. School Curricula and Correspondence Courses

The contents of the Manual for Mobilization Planners could provide the basis for Post Graduate School and correspondence courses. If not already emphasized in staff college curricula, it is recommended that the addition of mobilization planning subject matter be considered.

9. Manpower Policies

In order to improve the understandings and attitudes of planning personnel at the activity level, it is also suggested that statements on the Navy's manpower policy, planning objectives, and planning procedures be issued periodically. Such information would tend to impress the personnel concerned with the importance of planning and thus promote better planning performance.

APPENDICES

APPENDIX "A"
LIST OF ACTIVITIES VISITED

Naval activities visited in the course of the study, including field validation visits:

New York City Area (9/22 - 10/3/52)

Staff, Commander Eastern Sea Frontier
Headquarters, Third Naval District

Brooklyn:

New York Naval Shipyard
Naval Dental Clinic
Field Branch, BuMed
Naval Supply Activities
Naval Supply Facility
Ship's Store Office

Bayonne, N. J.:

Naval Supply Depot
Central Freight Control Office
Supply Research & Development Facility
Naval Salvage School

Bainbridge, Md. (12/10 - 12/11/52)

Staff, Naval Training Station

Philadelphia, Pa. (12/15 - 12/19/52)

Staff, 4th Naval District & Naval Base
Staff, Naval Receiving Station
Naval Shipyard
Naval Hospital

(NOTE: Data relating to Reserve Training Centers in the Philadelphia Area were obtained from the 4th Naval District Staff)

Norfolk, Va., Area (12/15 - 12/18/52)

Atlantic Fleet:

Staffs of: CinCLant
ComServLant
ComAirLant
ComCruLant

5th Naval District:

Staffs of: 5th Naval District
Naval Receiving Station, Norfolk

(4/1/53) - PersLant & Staff, PersServLant

Field Validation Visits:

Newport, R. I., Area (5/18 - 5/19/52)

Staff, DesLant
U.S.S. Yosemite (AD - 19)
Commander & Staff, DesRon - 10
U.S.S. Samuel B. Roberts (DD-823)
U.S.S. Brownson (DD - 868)

New London, Conn. - Submarine Base, Groton, Conn., (5/20/52)

Staff, SubLant
Commander & Staff of a SubRon
U.S.S. Tirante (SS - 420)

Norfolk, Va., Area (5/25 - 5/26/53)

At N. B. Norfolk (Hampton Roads):
PersLant & Staff PersServLant
Commander & Staff, DesFlot 4
U.S.S. Grand Canyon (AD - 28)
U.S.S. Coney (DD - 508)

At Norfolk Naval Shipyard (Portsmouth, Va.):
U.S.S. Wallace L. Lind (DD - 703)
U.S.S. Borie (DD - 704)

Charleston, S. C. (6/2 - 6/3/53)

Staff, Mine Force, Atlantic Fleet
Commander, Mine Sweeping Boat Squadron 10
The former C. O. of the DM Thomas E. Fraser

APPENDIX "B"

DEPARTMENT OF THE NAVY
BUREAU OF NAVAL PERSONNEL
WASHINGTON 25, D. C.

BUPERS 1221
IN REPLY REFER TO
PERS-1533a-atp
23 MARCH 1953

BUPERS NOTICE 1221

From: Chief of Naval Personnel
To: Distribution List

Subj: Identification of Occupational Skills Required in Enlisted Allowances;
inquiry pertaining to

Ref: (a) BUPERS Manual, Article C-3205, paragraphs (3) and (4) (a)
(b) Manual of Enlisted Navy Job Classifications, NAVPERS
15105 (Revised)

Encl: (1) Instructions for Reporting Required Enlisted Occupational Skills
in Allowance (Type A or B)
(2) Form for Reporting Required Enlisted Occupational Skills in
Allowance (Type A or B)

1. Purpose. The purpose of this Notice is to secure detailed data on skill requirements, from a limited but diversified sample, to assist in determining the enlisted allowance requirements of the Navy's ships and shore activities in terms of special skills.

2. Clarification. In accordance with the Navy's manpower utilization program, the Bureau of Naval Personnel is making a study of personnel needs, both in numbers and kinds. An important area of investigation is the identification of skills needed in the Navy. To meet the problems of training, classification, and distribution involved in meeting such requirements, it is imperative that the required skills be identified, as provided in reference (a), both in the personnel possessing them and in the billets requiring them. The number and location of all billets requiring such skills must be determined in order that they may be adequately filled.

3. Action. It is requested that enclosure (2) be completed as indicated in enclosure (1), within the capabilities of your command, and forwarded to the Chief of Naval Personnel (Pers-15). To insure full utilization of data, the reports should be completed in time to reach the Bureau of Naval Personnel by 15 April 1953.

4. Routing. Due to the urgency of this matter, the request for information is being addressed directly to the ships concerned, with an information copy (including enclosures (1) and (2)) to the type and other interested commanders. The type of enclosure (1) sent to the respective ships is indicated on the distribution list.

5. Cancellation. This Notice is cancelled 16 April 1953.

s/ J. F. Bolger

J. F. BOLGER

Rear Admiral, USN

Deputy Chief of Naval Personnel

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USS BLUE (DD 744)(Type A)
USS BRINKLEY BASS (DD 887)(Type B)
USS CONE (DD 866)(Type A)
USS ENGLISH (DD 696)(Type B)
USS GEARING (DD 710)(Type A)
USS GYATT (DD 712)(Type A)
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USS WILTSIE (DD 716)(Type A)
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USS GRAND CANYON (AD 28)(Type B)
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USS PRAIRIE (AD 15)(Type A)
USS YELLOWSTONE (AD 27)(Type B)
USS YOSEMITE (AD 19)(Type A)

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INSTRUCTIONS

for

Reporting Required Enlisted Occupational Skills in Allowance
(See Report Form, Enclosure (2), herewith.)

1. Report all skill requirements of each department separately by its component divisions, sections or other subordinate elements. Put title of division and of each subordinate element above the first rating listed in that sub-division.
2. In column 1 list each rate in Allowance in every rating included in each ship's division or comparable element of activity, including personnel in pay grades E-2 and E-3.
3. In column 2 indicate by Enlisted Navy Job Classification Codes, reference (b), the occupational skills required to be possessed by personnel listed in column 1, if codes exist covering functions requiring those skills. Where required, to clarify identification of specific skills, use the additional two-digit service type code to indicate the type of ship or activity where required skills may be acquired.
4. In column 3 indicate the number of personnel required to have skills identified by each Enlisted Navy Job Classification Code in column 2.
5. In column 4 indicate considered opinion as to whether or not occupational skills identified by each Enlisted Navy Job Classification Code can be adequately earmarked solely by General Service rate and rating in Allowance. In all cases where a "No" is entered explain the reasons by also entering the appropriate letter(s) from the following key:

<u>Key Letter</u>	<u>Reason why skill cannot be identified by rate and rating</u>
A	Not included in the scope of the rating qualifications for advancement to the rate required.
B	Equipment on which employed is of a classified nature and knowledge of its operation, maintenance, etc. is not distributed throughout the personnel in the rating required.
C	Equipment on which employed has too limited distribution to warrant training all personnel in the required rating in its operation, maintenance, etc.
D	Other reasons. Explain such reasons in the "Remarks" column (Column 5).

6. In column 5 enter any remarks considered pertinent, including a brief explanation of why any particular skill required is considered to be essential to the adequate functioning of the ship.

Enclosure (1) Type A

7. In cases where no Enlisted NJC Code can be found which adequately identifies a required occupational skill, state the number of persons required to have that skill and whether the skill is an essential one, with reasons therefore. Enter on the report form, immediately below the rate and rating abbreviation to which it applies, a concise functional occupational billet description which indicates the specific skill or skills required. Extend billet descriptions across all five columns of the report form.

Data on such skills should be submitted on each separate billet, NOT on a group of billets, a section, or other sub-division of a ship or activity lumped together under a single billet title. However, where several men perform identical functions in the same sub-division of a ship or activity, as in the case of men standing watch in turn on the same duty station, a single billet title and description may cover all of them.

The Billet Title should be expressed, whenever possible, in standard Navy terms that high-light the primary function of the billet, and indicate its specific place in the organization.

The Billet Description should be a brief and clear statement of the essential function (or functions) to be performed by any incumbent of the billet, NOT a listing of the qualifications of such person. The essential function of a billet is that which requires a separate billet for its performance under the work load conditions for which it is set up, and which differentiates that particular billet from others in the same field of activity within the same organization.

Examples of good and bad billet descriptions follows:

GOOD

1. Billet Title: Air Plotter (Ship Control-CIC-on D. E.)

Maintains an air plot of all radar contacts for identification and defensive gunnery purposes. Plots successive bearings and ranges of air targets, as reported by air search radar operator. Determines target course and speed, and estimates target altitude. Plots position of friendly aircraft. Makes data available to CIC officer by writing it on plotting board adjacent to track.

BAD

Marks in air targets with grease pencil on translucent polar coordinate chart. Lays pencil (or straight edge) along target track and parallels it across to center of polar chart, reading course from figures at edge of chart. Places speed scale along target track to determine course and speed, plotting estimated position each minute during fade. May change to a different range scale to make plotting and determination of course and speed easier and more accurate.

Note: In the two descriptions above, both are true statements, but while the "Good" description summarizes the essential function and the principal elements of that function, thereby indicating "what" is done, the "Bad" description needlessly sets forth the details of "how" the tasks are performed, but leaves no clear picture of what is accomplished.

2. Billet Title: Administrative Yeoman (C. V. Aircraft Squadron)

Performs office clerical duties of typing, filing and preparation and recording of reports under cognizance of administrative and executive officers. Directs and assists in typing correspondence, reports, memoranda and directives. Supervises details concerned with orders, leave, files and pay vouchers. Establishes procedures for keeping publications up to date and assists in maintaining and correcting publications.

Must be adaptable to office work and accurate and neat in clerical duties, with a thorough knowledge of the Navy filing system, and the requirements of an administrative office. Should be skilled in touch typing and mimeograph operation. Should be graduate of Class A YN school, have completed touch typing course, and have had some high school education.

Note: In this case the "Bad" description does not cover the functions performed in the billet, but the desirable personal characteristics, knowledges, and skills, education and training for an incumbent of the billet.

IN ALLOWANCE

[illegible]

Enclosure (2) Type A

INSTRUCTIONS

for

Reporting Required Enlisted Occupational Skills in Allowance

(See Report Form, Enclosure (2), herewith)

1. Report all skill requirements of each department separately by its component divisions, sections or other subordinate elements. Put title of division and of each subordinate element above the first rating listed in that sub-division.
2. In column 1 list each rate in Allowance in every rating included in each ship's division or comparable element of activity, including personnel in pay grades E-2 and E-3.
3. In column 2 indicate the number of individuals in each rate and non-rated pay grade listed in column 1 under each section or other organizational sub-division.
4. In column 3 indicate considered opinion as to whether or not occupational skills required can be adequately identified solely by General Service rate and rating in Allowance. In all cases where a "No" is entered explain the reasons by also entering the appropriate letters from the following key:

<u>Key Letter</u>	<u>Reason why skill cannot be identified by rate and rating</u>
A	Not included in the scope of the rating nor in the qualifications for advancement to the rate required.
B	Equipment on which employed is of a classified nature and knowledge of its operation, maintenance, etc. is not distributed throughout the personnel in the rating required.
C	Equipment on which employed has too limited distribution to warrant training all personnel in the required rating in its operation, maintenance, etc.
D	Other reasons. Explain such reasons in the "Remarks" column (Column 5).

5. In column 4 identify by Enlisted Navy Job Classification Codes from reference (b), any skill indicated in column 3 as not adequately earmarked by rate and rating. Where a single Enlisted Navy Job Classification Code does not adequately identify the occupational skills required of all individuals in the same rate or pay grade in any section or other organizational sub-division, list all codes needed to identify each essential skill required in column 4, and in column 2 in parenthesis, show the number of individuals required to possess the skill(s) indicated by each code listed.
6. In column 5 enter any remarks considered pertinent, including a brief explanation of why any particular skill required is considered to be essential to the adequate functioning of the ship.

(Pages 2 and 3 of Enclosure (1) Type B are identical with those pages of Enclosure (1) Type A.)

Enclosure (1) Type B

Reporting Ship or Activity: _____

Enclosure (2) Type B

A P P E N D I X "C"

SPECIAL SKILL REQUIREMENTS IN DD & AD ALLOWANCES

Codes reported, or stated in Validation Interviews, to be required to identify occupational skills which cannot be adequately identified by Rate and Rating Designations.

KEY: x indicates type of ship reporting requirement
 v indicates requirement considered established in Validation Interviews
 * indicates ENJC code presently written in on Authorized Allowances

<u>ENJC</u> <u>Codes</u>	<u>Code Titles</u>	<u>Required by</u>	
		<u>DD's</u>	<u>AD's</u>
BM			
0142	Canvas Worker and Sewing Machine Operator (BMG-BMB -BMK)	-	xv
QM			
0201	Assistant to Navigator (QMQ-QMS)	-	x
0209	Quartermaster - Signalman, Basic (QMQ-QMS)	x	x
0211	Quartermaster, Supervisor (QMQ)	-	x
0212	Chart and Publications Man, Afloat (QMQ)	-	x
0213	Quartermaster, Watch Stander (QMQ)	-	x
0231	Signalman, Supervisor (QMS)	-	x
0232	Signal Watch Stander (QMS)	-	x
RD			
0302	Radar Operator-Plotter	x	-
0303	Radar Operator, Search	x	-
0304	Radar Operator, Radar Countermeasures Equipment	xv	-
0309	Radarman, Basic	x	x
SO			
0401	Sonarman, Supervisor (SOG)	-	x
0401/3426	Sonarman, Attack-Teacher Instructor, Supervisor (SOG)	-	xv
0402	Sonar Operator, Surface (SOG)	x	-
0402/3426	Sonar Operator, Attack-Teacher Instructor, Surface (SOG)	-	xv
0403	Sonar Operator, Surface Maintenance Experience (SOG)	-	x
0404	Sonar Operator, Integrated Anti-submarine Warfare, Maintenance Experience (SOG)	v	x
0404/3426	Sonar Operator, Integrated Anti-submarine Warfare, Attack-Teacher Instructor and Maintenance Experience (SOG)	v	xv
0409	Sonarman, Shipboard, Basic (SOG)	-	x
TM			
0709	Torpedoman, General, Basic	-	x
0712	Torpedo Main Engine Repairman, Mechanical (TMT)	-	x

ENJC CODES	Code Titles	Required by	
		DD's	AD's
TM			
0713	Torpedo Mechanic, Surface Ship (TMT)	x	-
0719	Torpedoman, Mechanical, Basic (TMT)	x	x
0742	Torpedo Afterbody Test Stand Operator (TMT-TME)	-	x
0743	Torpedo Afterbody Mechanic (TMT-TME)	-	x
0744	Torpedo Gyro Housing Repairman (TMT-TME)	-	x
0745	Torpedo Gyro Repairman (TMT-TME)	-	xv
0753	Torpedo Tube Repairman, Surface (TMT-TME-TMS)	-	x
0754	Torpedo Valve Group Repairman (TMT-TME)	-	x
0755	Torpedo Warhead Mechanic (TMT-TME)	-	x
0757	Torpedo Air Flask Man (TMT)	-	x
0774	Advanced Underseas Weapons Mechanic, Surface Ship (TMS)	v	-
0782	Depth Charge Mechanic, General (all types)	x	-
0784	Depth Charge Mechanic, Electronic depth charges	-	x
GM			
0802	Ordnance Repairman, Hydraulic (GMM-GMT)	-	xv
0809	Gunner's Mate, Basic	x	-
0871	Gunner's Mate, Mounts, Supervisor (GMM)	x	x
0872	Gunnery Maintenance Man, Hydraulic Dual Purpose 5"/38 Single and twin mounts (GMM)	x	x
0875	Gunnery Maintenance Man, Hydraulic, Dual Purpose 3"/50 Rapid fire single or twin mounts (with automatic loader) (GMM)	xv	x
0876	Gunnery Maintenance Man, Hydraulic, Automatic Weapons, 40-mm. York safe and lock (GMM)	-	x
0879	Gunner's Mate, Mounts, Basic (GMM)	-	x
FT			
1104	Fire Control Repairman, Electronic Repair	-	xv
1104/9984	Fire Control Repairman, Electronic Repair	xv	xv
1105	Fire Control Repairman, Electro-mechanical Repair	-	x
1106	Fire Control Repairman, Electro-hydraulic Repair	-	x
1109	Fire Control Repairman, Basic	x	x
ET			
1502	Electronics Technician	x	-
1509	Electronics Technician, Basic	x	x
1512	Electronics Technician, Radar General (all types) (ETR)	-	x
1515	Electronics Technician, Radar RCM Equipment (ETR)	x	-
1522	Electronics Technician, Sonar (ETS)	-	x
1531	Electronics Technician, Communications Equipment, Supervisor (ETN)	-	x
1532	Electronics Technician, Communications Equipment, General (all types) (ETN)	-	x
IM			
1809	Instrumentman, General, Basic	-	x
1811	Instrumentman, Watch and Clock Supervisor (IMW)	-	x
1812	Instrumentman, Watch and Clock (IMW)	-	x
1822	Instrumentman, Office Machine (IMO)	-	x

ENJC CODES	Code Titles	Required by	
		DD's	AD's
OM			
1904	Optical Repairman, Range Finders	-	x
1905	Optical Repairman, Telescopic Gun Sights	-	x
1909	Opticalman, Basic	-	x
TE			
2251	Mailman, Supervisor (TEM)	-	x
2252	Postal Clerk (TEM)	xv*	xv
2253	Mail Sorter (TEM)	-	x
2342	Teletypewriter Repairman	x	-
RM			
2304	Radio Operator, Intermediate speed (20-29 words per min.) (RMN)	-	x
2319	Radio Operator, Basic (RMN)	x	x
2342	Teletypewriter Repairman (RMN, RMT)	v	-
2342/9922	Teletypewriter Repairman (RMN, RMT)	v	x
YN			
2509	Yeoman, Basic	x	x
2513	Court Reporter (YNS)	-	v
PN			
2609	Personnel Man, Basic	-	x
2651	Personnel Records Clerk, Supervisor (PNA)	-	v
2659	Personnel Records Clerk, Basic (PNA)	-	x
SK			
2809	Storekeeper, Basic (SKG-SKT)	x	x
2813	Supply Clerk, Store, General stores (SKG-SKT)	v	-
2816	Supply Clerk, Store, Ship's service store (SKC)	x	-
2836	Receipt and Delivery Clerk (SKG-SKT)	-	v
2852	Spare Parts Man, Hull and Machinery (SKT)	-	x
2857	Spare Parts Man, Electronic equipment (radio, radar, sonar) (SKT)	-	xv
2858	Spare Parts Man, Ordnance (SKT)	-	xv
DK			
2909	Disbursing Clerk, Basic	-	x
CS			
3001	Chief Commissary man	v*	-*
3002	Galley Supervisor	x	x
3003	Ship's Cook-Butcher	-	xv
3005	Commissary Utility Man	x	-
3009	Commissaryman, Basic	-	x
3021	Ship's Cook, Supervisor (CSG)	-	x
3022	Ship's Cook (CSG)	xv*	x*v
3041	Baker, Supervisor (CSR)	-	x
3042	Baker (CSR)	xv*	x*v
3049	Baker, Basic (CSR)	x	-

ENJC CODES	Code Titles	Required by	
		DD's	AD's
SH			
3109	Ship's Serviceman, Basic	-	x
3111	Ship's Store, Manager	-	x
3112	Cashier and Sales Clerk	-	x*
3114	Soda Fountain Attendant	-	x
3122	Barber	xv*	x*v
3142	Tailor	-	x*
3151	Manager, Laundry Shop	x	xv
3152	Laundryman	xv*	x*
3153	Dry Cleaner, Presser	-	x
3154	Dry Cleaner	-	x
3159	Laundryman, Basic	x	-
3162	Cobbler, General, Machine Repair Experience	-	xv
3163	Cobbler, General	-	x*
3400-3499	EXCLUSIVE EMERGENCY SERVICE GROUPS		
3442	Passenger Transportation Specialist (SKG)	-	v
PI	No Codes Required		
LI			
3601	Lithographer, Supervisor	-	x
3609	Lithographer, Basic	-	x
3621	Lithographic Cameraman and Platemaker, Supervisor (LIT)	-	x
DM	No Codes Required		
PH	No Codes Required		
MM			
4211	Steam Engineer, Turbine (MML)	x	-
4212	Assistant Steam Engineer, Turbine (MML)	x	-
4241	Auxiliary Mechanic, Supervisor (MML - MMR)	x	x
4242	Auxiliary Mechanic (MML)	-	x
4249	Auxiliary Mechanic, Basic (MML)	-	x
4252	Steam Heat Maintenance Mechanic (MML)	v	x
4272	Outside Machinist, Ship Repair (MML)	-	xv
4272-42	Outside Machinist, Ship Repair - with AD Service (MML)	-	x
4291	Refrigeration and Air Conditioning Mechanic, Supervisor	xv	xv
4293	Air Conditioning Mechanic (MMR)	-	x
EN	No Codes Required		
MR			
4409	Machinist, Basic	-	x
4432	Milling Machine Operator	-	x
4443	Universal Grinder Operator	-	x
4452	Tool Room Man	-	x

ENJC CODES	Code Titles	Required by	
		DD's	AD's
BT			
4501-42	Fireroom Supervisor, Boiler Repair Experience - with AD Service (BTG - BTR)	-	x
4532	Oil King, Large Ship (BTG)	xv	x
4542	Boiler Repairman (BTR)	-	xv
4549	Boiler Repairman, Basic (BTR)	-	xv
EM			
4617	Electrician, Small Ship, General, Supervisor (EMP)	x	-
4618	Electrician, Small Ship, General (EMP)	x	-
4631	Electrician, Power and Lighting, Supervisor, General (alternating and direct) (EMP)	x	-
4631-25	Electrician, Power and Lighting, Supervisor, General (alternating and direct) - with DD Service (EMP)	x	-
4634	Electrician, Power and Lighting, Repairman, General (alternating and direct) (EMP)	x	-
4639	Electrician, Shipboard, Basic (EMP)	x	x
4651	Electrician, Shop Repair, Supervisor (EMS)	-	v
4652	Electrician, Shop Repair (EMS)	-	x
4655	Electrical Instrument Repairman (EMS)	-	x
4656	Battery Repairman, (EMP, EMS)	-	v
4689	Electrician, Basic	-	x
IC			
4701	Interior Communications Electrician, Supervisor	-	v
4702	Interior Communications Electrician	xv	x
4709	Electrician, Basic, Interior Communications	x	x
4712	Interior Communications Automatic Telephone, Electrician	-	x
4722	Gyro Repair, Interior Communications Electrician	v	xv
ME			
4801-42	Metalsmith, Supervisor - with AD Service	-	x
4809	Metalsmith, Basic	-	x
4812	Shipboard Metalsmith (MEG)	-	x
4812-25	Shipboard Metalsmith - with DD Service (MEG)	x	-
4819	Shipboard Metalsmith, Basic (MEG)	x	x
4821	Sheet Metal Worker, Supervisor (MES)	-	v
4821-42	Sheet Metal Worker, Supervisor - with AD Service (MES)	-	x
4822	Sheet Metal Worker (MES)	-	x
4822-42	Sheet Metal Worker - with AD Service (MES)	-	x
4829	Sheet Metal Worker, Basic, (MES)	-	x
4831-42	Blacksmith, Supervisor - with AD Service (MEB)	-	x
4832	Blacksmith, General (MEB)	-	xv
4841	Welder Supervisor (MEW)	-	v
4841-42	Welder Supervisor - with AD Service (MEW)	-	x
4842	Welder, Combination (MEW)	v	x
4842-42	Welder, Combination - with AD Service (MEW)	-	xv
4849	Welder, Basic (MEW)	-	x

ENJC CODE	Code Titles	Required by <u>DD's</u> <u>AD's</u>	
FP			
4909	Pipe Fitter, Basic	-	x
4911-25	Shipboard Pipe Fitter, Supervisor - with DD Service (FPG)	x	-
4912	Shipboard Pipe Fitter (FPG)	x	-
4912-25	Shipboard Pipe Fitter - with DD Service (FPG)	x	-
4919	Shipboard Pipe Fitter, Basic (FPG)	x	x
4922	Pipe Fitter, Plumber (FPP)	-	x
4942	Marine Steam Fitter (FPS)	v	x
4943	Pipe Coverer (FPS)	-	x
DC			
5032	Damage Controlman	v	-
5009	Damage Controlman, Basic	-	x
5012	Shipboard Damage Controlman (DCG)	xv	x
5012-25	Shipboard Damage Controlman - with DD Service (DCG)	x	-
5019	Shipboard Damage Controlman, Basic (DCG)	x	x
5021	Carpenter, Supervisor (DCW)	-	xv
5022	Ship Maintenance Carpenter (DCW)	-	xv
5024	Small Boat Carpenter (DCW)	-	xv
5029	Carpenter, Basic (DCW)	-	x
PM	No Codes Required		
ML			
5209	Foundryman, Basic	-	x
521^	Molder, Basic	-	x
ESM			
5312	Diver, First Class	-	v*
5313	Diver, Second Class	-	v*
5314	Diver, Third Class	-	v*
HM			
8402	Hospital Corpsman, General Service (HM-GS)	xv*	-*
8405	Hospital Corpsman, Special Service (HM-SS)	xv*	-
8412	Hospital Corpsman, Clinical Laboratory Technician (HM-LBT)	-	x*
8443	Hospital Corpsman, Property and Accounting Technician (HM-PAT)	-	x
8483	Hospital Corpsman, Operating Room Technician (HM-ORT)	-	x*
DT			
8732	Dental Technician, Repair (DTR)	-	x*v
8752	Dental Technician, Prosthetic (DTP)	-	x*v

<u>ENJC CODE</u>	<u>Code Titles</u>	<u>Required by</u> <u>DD's</u> <u>AD's</u>	
SD 9012	Steward, Cook (SDG)	xv	x
9900-9999	SPECIAL PROGRAM JOB CODES		
9922	Cryptographic Machines Repairman	v	xv*
9984	Gunfire Control System Mark 56 Technician	xv*	xv

APPENDIX "D"

PART I

CODES REPORTED IN SAMPLING SURVEY TO BE REQUIRED
FOR OCCUPATIONAL SKILL IDENTIFICATION OF BILLETS
IN AUTHORIZED ALLOWANCES OF 2,200 TON (692 CLASS)
DD's WITH 3"/50 GUNS.

KEY: # Code reported as REQUIRED for billet skill identification.
x Code used on report, but not reported required for Skill
Identification.
- No billets so coded on report (i.e., with code shown on
same line).

<u>G. S. Ratings</u>	<u>I</u> <u>Pac. DD's</u> (Type "A" Report)	<u>II</u> <u>Gearing</u>	<u>III</u> <u>Gyatt</u>	<u>IV</u> <u>Additional</u> (From reports of other DD's)*
QM's	0209#	x	x	Pac.# Lant. x
RD's	0302#	x	x	Pac.# Lant. x
	0303#	x	x	Pac.# Lant. x
	0304#	x	-	Pac.#
	0309#	x	x	Pac.# Lant. x
SO's	0402#	x	x	Pac.# Lant. x
TM's	0713#	x	-	Pac.# Lant. x
	0719#	-	-	Pac.# Lant. x
	0782#	-	-	Lant. x
GM's	0809#	-	x	Pac.# Lant. x
	0871#	x	-	Pac.# Lant. x
	0872#	x	x	Pac.#
	0875#	-	-	Pac.#
FT's	1104x	x	-	Pac.# Lant. x
	1104/9984#	-	-	-
	1109#	x	x	Pac.# Lant. x
ET's	1502#	x	x	Pac.# Lant. x
	1509#	x	x	Pac.# Lant. x
	1515#	-	-	Pac.#
TE's	2252#	-	-	Pac.# Lant. #
	-	-	2342#	-
RM's	2319#	x	x	Pac.# Lant x

* Includes Pac. DD's, Type "B" report; Cone, Type "A" report; and
English, Noa and Vogelgesang, all Type "B" reports.

NOTE: Noa and English reported no billets requiring identification of
any special skills.

<u>G. S. Ratings</u>	<u>I</u> <u>Pac. DD's</u>	<u>II</u> <u>Gearing</u>	<u>III</u> <u>Gyatt</u>	<u>IV</u> <u>Additional</u>
YN's	2509 #	x	x	Pac.# Lant. x
SK's	2809 # 2816 #	x -	x -	Pac.# Pac.#
CS's	3002 # 3005 # 3022 # 3042 # 3049 #	x x - - -	x x - - -	Lant. x - Pac.# Lant. x Pac.# Lant. x Pac.# Lant. x
SH's	3122 # 3151 # 3152 # 3159 #	x - x x	- - - x	Pac.# Pac.# Lant. x Pac.# Lant. x Pac.#
MM's	4211 # 4212 # 4241 # 4291 #	x - x -	- - - -	Pac.# Lant. x Pac.# Lant. x Pac.# Lant. x Pac.#
BT's	4532 #	-	-	Pac.# Lant. x
EM's	4617 # 4618 # - 4631-25 # 4634 # 4639 #	x x - - x x	- - - x - -	Pac.# Pac.# Pac. EM - 4631 # Lant. x Pac.# Lant. x Pac.# Lant. x
IC's	4702 # 4709 #	x -	- -	Pac.# Lant. x Pac.# Lant. x
ME's	4812-25 # 4819 #	- x	x -	Pac.# Pac.# Lant. x
FP's	4911-25 # 4912 # 4912-25 # 4919 #	- x - -	x - x -	Pac.# Lant. x Pac.# Pac.# Lant. x
DC's	5012 # 5012-25 # 5019 #	x - -	- x -	Pac.# Lant. x - Pac.#
HM's	8402 # 8405 #	x -	x -	Pac.# Lant. x Pac.# Lant. x

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>
<u>G. S. Ratings</u>	<u>Pac. DD's</u>	<u>Gearing</u>	<u>Gyatt</u>	<u>Additional</u>
SD's	9012 #	-	x	Pac.# Lant. x
Special Program Job Codes	9984 #	-	-	Pac.#

PART II

CODES REPORTED IN SAMPLING SURVEY TO BE REQUIRED
FOR OCCUPATIONAL SKILL IDENTIFICATION OF BILLETS
IN AUTHORIZED ALLOWANCES OF AD's.

KEY: # Code reported as REQUIRED for billet skill identification.
 x Code used on report, but not reported required for Skill Identification.
 - No billets so coded on report (i. e., with code shown on same line).

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>
<u>G. S. Ratings</u>	<u>USS Prairie</u>	<u>USS Yosemite</u>	<u>USS Piedmont</u>	<u>USS Yellowstone</u>
BM's	BM-0142 #	x	-	-
QM's	QM-0201 #	x	#	-
	0209 #	-	#	-
	-	-	0211#	-
	0212 #	-	-	-
	0213 #	x	#	-
	0231 #	x	#	-
	0232 #	x	#	-
RD's	RD-0309 #	x	#	-
SO's	SO - -	0401#	-	-
	-	-	0401/3426#	-
	-	-	0402/3426#	-
	-	0403#	-	-
	-	0404#	-	-
	-	-	0404/3426#	-
	-	0409#	-	-
TM's	TM- -	0709x	#	-
	0712 #	x	#	-
	0719 #	x	-	-
	0742 #	x	-	-
	0743 #	x	#	-
	0744 #	x	#	-

Note: USS Grand Canyon (AD-28) reported all required skills to be adequately identified by Rate & Rating.

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>
<u>G. S. Ratings</u>	<u>USS Prairie</u>	<u>USS Yosemite</u>	<u>USS Piedmont</u>	<u>USS Yellowstone</u>
TM's (cont'd)	TM-0745 #	x	#	-
	0753 #	-	#	-
	0754 #	x	#	-
	0755 #	x	#	-
	0757x	x	#	-
	-	-	0784 #	-
GM's	GM-0802 #	x	-	-
	0871 #	x	#	-
	0872 #	x	#	-
	0875 #	-	#	-
	0876 #	x	-	-
	0879 #	x	-	-
FT's	FT-1104x	-	#	-
	1104/9984#	-	#	-
	1105x	-	#	-
	1106x	-	#	-
	1109 #	x	#	-
ET's	ET-1509 #	x	-	-
	1512 #	-	#	-
	1522 #	-	-	-
	1531 #	-	-	-
	1532 #	x	#	-
IM's	IM-1809 #	x	#	-
	1811 #	x	-	-
	1812 #	-	#	-
	1822x	x	#	-
QM's	QM-1904 #	x	#	-
	1905 #	-	#	-
	-	1909x	#	-
TE's	TE-2251 #	x	-	-
	2252x	x	#	-
	-	2253x	#	-
RM's	RM-2304 #	-	-	-
	2319 #	x	#	-
	-	2342/9922 #	-	-
YN's	YN-2509 #	x	#	-
PN's	PN- -	2609x	#	-
	2659 #	-	-	-

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>
<u>G.S. Ratings</u>	<u>USS Prairie</u>	<u>USS Yosemite</u>	<u>USS Piedmont</u>	<u>USS Yellowstone</u>
SK's	SK-2809#	x	#	x
	2852#	-	-	x
	2857#	x	#	x
	2858#	x	#	x
DK's	DK-2909#	x	#	-
CS's	CS - -	-	3002 #	-
	3003#	x	x	-
	3009#	x	-	-
	3021#	-	#	-
	3022#	-	#	-
	3041#	-	#	-
	3042#	-	#	-
SH's	SH- 3109#	x	#	-
	3111#	x	-	x
	3112#	-	-	-
	3114#	x	-	x
	3122#	x	#	x
	3142#	-	#	x
	3151#	x	-	x
	3152#	x	#	x
	-	3153x	#	x
	3154#	x	-	x
	-	-	3162 #	-
	3163#	-	-	-
LI's	LI- 3601#	x	-	-
	-	-	-	3609#
	3621#	-	-	-

USS Prairie - ENJC codes in LI group would not be needed to identify skill requirements of billets, provided rating is changed from PI to LI to conform to the equipment actually on board.

MM's	MM-4241x	x	#	-
	4242#	-	-	-
	-	4249x	#	-
	4252#	x	-	-
	4272#	-	-	-
	4272-42 #	-	-	-
	4291#	x	#	-
	4292#	x	#	-
	4293#	-	-	-
MR's	MR-4409#	x	#	-
	4432x	-	#	-
	4443x	-	#	-
	4452#	-	-	-

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>
<u>G.S. Ratings</u>	<u>USS Prairie</u>	<u>USS Yosemite</u>	<u>USS Piedmont</u>	<u>USS Yellowstone</u>
BT's	BT-4501-42#	-	-	-
	4532 #	x	#	-
	4542 #	x	#	-
	4549 #	-	-	-
EM's	EM-4639 #	x	#	-
	4652 #	x	#	-
	-	-	4655#	-
	4689 #	x	-	-
IC's	IC - 4702 #	x	-	-
	4709 #	x	#	-
	4712 x	x	#	-
	4722 #	-	#	-
ME's	ME-4801-42#	-	-	-
	-	4809x	#	-
	4812x	x	#	-
	4819 #	x	-	-
	4821-42 #	-	-	-
	4822x	x	#	-
	4822-42 #	-	-	-
	4829 #	-	-	-
	4831-42 #	-	-	-
	4832 #	-	#	-
	4841-42 #	x	-	-
	4842 #	x	#	-
	4842-42 #	-	-	-
	4849 #	-	-	-
FP's	FP- -	4909x	#	-
	4919 #	x	-	-
	-	4922x	#	-
	-	-	4942#	-
	-	-	4943#	-
DC's	DC - -	5009x	#	-
	5012x	x	#	-
	5019 #	x	-	-
	5021 #	x	#	-
	5022 #	x	#	-
	5024 #	x	-	-
	5029 #	-	-	-
ML's	ML- -	5209x	#	-
	5219 #	-	-	-

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>
<u>G.S. Ratings</u>	<u>USS Prairie</u>	<u>USS Yosemite</u>	<u>USS Piedmont</u>	<u>USS Yellowstone</u>
HM's	HM-8412 #	x	#	-
	8443 #	-	#	-
	8483 #	x	#	-
DT's	DT -8732 #	x	#	x
	8752 #	x	#	x
SD's	SD -9012 #	x	-	-
	9022x	x	-	#
SPJC's	-	9922 #	-	-
	9984	-	#	-

APPENDIX "E"

NEW ENJC CODES RECOMMENDED

The following new ENJC Codes were recommended in interviews, and/or in the sampling survey of DD and AD billets, as being required for identification of billet skills and for occupational classification of enlisted personnel with such skills.

KEY: v - Indicates requirement considered as established on Field Validation.

x - Indicates requirement reported, but not specifically validated.

<u>Tentative</u> <u>Code Numbers</u>		<u>Suggested Descriptive Titles of Codes</u>	<u>DD's</u>	<u>AD's</u>
RD	0300	Radarman, CIC Radar Watch Supervisor	x	-
SO	0400	Supervisor, Sonar Attack-Teacher Instruction	-	v
	0400	Instructor and Maintenance man Attack-Teacher	-	v
	0400	Observer and Maintenance Assistant, Attack-Teacher	-	v
TM	0700	Shop Supervisor, Torpedo Repair	-	v
	0700	Torpedo Storeroom Keeper	-	x
	0700	Supervisor, Air Flask Test and Repair	-	x
GM	0800	Ordinance Repair Supervisor	-	v
FT	1100	Shop Repair Supervisor, Fire Control Equipment	-	v
OM	1900	Navigational Instrument and Binocular Repairman	-	x
	1900	Optical Spare Parts Man	-	x
MM	4200	Shop Repair Supervisor, Machine Parts	-	x
	4200	Shop Repairman, Machine Parts	-	x
MR	4400	Shop Disassembly and Reassembly Supervisor, Machinery Repair	-	x
	4400	Shop Repairman, Machinery Disassembly and Reassembly	-	x
BT	4500	Supervisor, Boiler Repair	-	x
EM	4600	Supervisor, Outside Electrical Repair	-	x
	4600	Outside Electrical Repairman	-	x
	4600	Electrician's Mate, Dead Reckoning Tracer Equipment Maintenance	x	-
IC	4700	Shop Repairman, Motion Picture Equipment	-	x

APPENDIX "F"

Extracts from ComCruDesPac reply to Bu Pers Notice 1221

"4. The following difficulties have been encountered in coding billets from the Manual of Enlisted Navy Job Classifications:

a. General problems.

- (1) Hierarchy of jobs in many ratings is not defined.
- (2) Codes that are too inclusive, covering the entire scope of the rating.
- (3) No codes for assistant supervisor billets where elements of the job fall into the Supervisor Classification but remainder of the job is journeyman in nature.
- (4) Encountering billets for which no codes exist.

b. Specific problems.

- (1) No code for Sonarman, Attack Teacher Instructor. This billet is unique and to identify it by means of a Sonarman Primary Code and Instructor Secondary Code is not considered desirable.
- (2) No code for Supervisor, Torpedo Overhaul Shop.
- (3) Code GM-0833 Gunnery Maintenance Man includes equipments having very little relationship in maintenance skills. The skills required of a Gunnery Maintenance Man in caring for the 4"/50, 3"/50 and 5"/25 ordnance are as varied as the differences between WWI and WWII equipment.
- (4) Code GM-0871 Gunner's Mate, Mounts, Supervisor, is too inclusive.
- (5) Code GM-0901 Turret Maintenance Man, Hydraulic, Supervisor, causes the same problem as item (4) above.
- (6) No code provided for bulk of work in Optical Repair Shop, i. e., Navigational Equipment and Binocular Repairman. This forces the use of an inappropriate code calling for other higher skills.
- (7) The storekeeper codes do not fit shipboard billets.
- (8) There are no Ship's Servicemen codes for office or bulk storeroom men.

- (9) Lithographer coding should follow more closely the work breakdown in the Qualifications for Advancement in Rating, including a separate code for veritypist. The present code LI-3602 includes the functions of the entire rating, when in actual practice, men tend to specialize in a shop.
- (10) Coding of main propulsion billets for MM, EN, and BT ratings should include a range of watchstanding requirements.
- (11) Code MM-4242 places auxiliary machinery in firerooms and therefore is not applicable to all ship types. This code should be combined with MM-4252.
- (12) No code for Supervisor, Outside Machine Shop, Ship Repair.
- (13) No code for Assistants to Oil King.
- (14) No code for IC Repair Shop Man or Electrical Instrument Repairman. The latter billet is identified only for Electrician's Mates.
- (15) No code to identify the billet of Hull Repairman on DD's or smaller vessels where Metalsmiths, Pipe Fitters, and Damage Controlmen all work in the same gang performing duties that cut across rating qualifications.

"5. It was found when coding billets in the various ratings the following categories tended to develop as a result of the preferences of Supervisors and division officers:

- a. Those ratings where coding is desirable in the upper levels.
Examples: SO, TM, GM, FT, OM, MM, BT, IC, and FP.
- b. Those ratings where coding is desirable in the lower levels.
Examples: ET, RM, SH, LI, and MR.
- c. Those ratings where coding is desirable throughout.
Examples: BM, QM, IM, TE, PN, CS, EM, ME, DC, HM, DT, and SD.
- d. Those ratings where coding is insignificant.
Examples: RD, YN, SK, DK, EN, PM, and ML."